

WHAT IS CLAIMED IS:

1. An electromagnetic interference filter, comprising:

an inductance coil with four wires extended therefrom;

a ceramic capacitance board with a plurality of separate capacitance electrodes

5 formed by a plurality of conductor thin-film areas on a first surface and one conductor thin-film area on a second surface;

a metallic film capacitance having two wires;

a covering material wrapping the ceramic capacitance board and the metallic film capacitance; and

10 a grounded wire;

wherein two wires extended from the inductance coil are electrically connected to the capacitance electrodes and electrically connected to the wires of the metallic thin-film capacitance, and one terminal of the grounded wire is electrically connected to the conductor thin-film area on the second surface of the ceramic capacitance board.

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2. The electromagnetic interference filter of claim 1, wherein the covering material wraps the ceramic capacitance board and the metallic film capacitance after the ceramic capacitance board, the metallic film capacitance, and the inductance coil are electrically connected to each other.

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3. An electromagnetic interference filter, comprising:

an inductance coil with four wires extended therefrom;

a ceramic capacitance board with a plurality of separate capacitance electrodes

formed by a plurality of conductor thin-film areas on a first surface and one conductor thin-

25 film area on a second surface;

a metallic film capacitance having two wires;

a covering material wrapping the ceramic capacitance board and the metallic film capacitance; and

a grounded wire;

5 wherein two wires extended from the inductance coil are electrically connected to the capacitance electrodes while the other two wires extended from the inductance coil are electrically connected to the wires of the metallic thin-film capacitance, and one terminal of the grounded wire is electrically connected to the conductor thin-film area on the second surface of the ceramic capacitance board.

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4. The electromagnetic interference filter of claim 3, wherein the covering material wraps the ceramic capacitance board and the metallic film capacitance after the ceramic capacitance board, the metallic film capacitance, and the inductance coil are electrically connected with each other.

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5. An electromagnetic interference filter (EMI filter) comprising:

an inductance coil with four wires extended therefrom;

a ceramic capacitance board with a plurality of capacitance electrodes formed by a plurality of conductor thin-film areas on a first surface of the ceramic capacitance board and
20 one conductor thin-film area on a second surface of the ceramic capacitance board;

a metallic film capacitance having two wires; and

a grounded wire;

wherein two wires extended from the inductance coil are electrically connected to the capacitance electrodes and the wires of the metallic film capacitance, or electrically
25 connected to the capacitance electrodes while the other two wires extended from the

inductance coil are electrically connected to the wires of the metallic thin-film capacitance, and one terminal of the grounded wire is electrically connected to the conductor thin-film area on the second surface of the ceramic capacitance board.

5 6. The electromagnetic interference filter of claim 5, wherein the number of the conductor thin-film areas on the first surface is two.

7. The electromagnetic interference filter of claim 5, wherein the conductor thin-film is a metallic film.

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8. The electromagnetic interference filter of claim 5, wherein the metallic film capacitance is located above and not in contact with the second surface of the ceramic capacitance board.

9. The electromagnetic interference filter of claim 5, wherein the metallic film capacitance is
15 not in contact with the second surface of the ceramic capacitance board.

10. The electromagnetic interference filter of claim 5 further comprising an insulating sheet covering the metallic film capacitance to insulate the metallic film capacitance from the ceramic capacitance board.

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11. The electromagnetic interference filter of claim 5 further comprising an insulating sheet covering the metallic film capacitance to insulate the part other than the wires of the metallic film capacitance from the inductance coil.

12. The electromagnetic interference filter of claim 5, wherein the ceramic capacitance board and the metallic film capacitance are wrapped in a covering material.

13. The electromagnetic interference filter of claim 12, wherein the covering material wraps the ceramic capacitance board and the metallic film capacitance after the ceramic capacitance board, the metallic film capacitance and the inductance coil are electrically connected with each other.

14. The electromagnetic interference filter of claim 12 further comprising a first plastic housing integrated with the covering material.

15. The electromagnetic interference filter of claim 14 further comprising a metallic housing to accommodate the first plastic housing to shield against electromagnetic interferences.

16. The electromagnetic interference filter of claim 15 further comprising a second plastic housing to accommodate the metallic housing.

17. The electromagnetic interference filter of claim 5 further comprising a resistor with two wires of it electrically connected to the wires of the inductance coil and the wires of the metallic film capacitance.

18. The electromagnetic interference filter of claim 5, wherein the ceramic capacitance board has a shape selected from a group made up of rectangular, circular, polygonal, and regular and irregular shapes.

19. The electromagnetic interference filter of claim 5, wherein the terminal of the wires of the inductance coil and the terminal of the grounded wire not connected to the metallic film area of the second surface are facing toward a direction that is parallel to the ceramic capacitance board.

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20. The electromagnetic interference filter of claim 5, wherein the terminal of the wires of the inductance coil and the terminal of the grounded wire not connected to the metallic film area of the second surface are facing toward a direction that is perpendicular to the ceramic capacitance board.

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